

SELF-LOCKING WIRE BOND STRUCTURE AND METHOD OF MAKING THE SAME

ABSTRACT OF THE DISCLOSURE

A complimentary self-locking wire bond structure and technique is introduced, where the bonding force is focused at the tip of the bond wire and a barb-type construction is utilized to enhance the durability and reduce the insertion forces. The end of wire bond has an "arrowhead" or similar functioning fastener such that the force is focused to a point that pierces the bond pad in a local area. The bond pad may be self-healing, such that the bond pad is made to close over and seal or lock the barb into the underpad layer below the pad, while making electrical contact with the wire bond at the bond pad surface. The bond pad may have a cushioning layer or cavity below it to dampen the piecing force of the pointed barb. A thin metal pad may also be formed over the compliant underpad layer for force absorption.

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